

Listing of the claims:

This listing of claims replaces all prior versions.

1-9 (Cancelled)

10. (Previously Presented) A method of preventing saturation of a sigma-delta A/D converter in a radio receiver having digital channel selectivity circuitry for selecting a digital channel and decode data from the selected channel, comprising:

obtaining wideband power estimations taken from a digital signal prior to the digital channel selectivity circuit and narrow-band power estimations taken from the digital signal after the digital channel selectivity circuit;

reducing an amplifier gain of a first one of a plurality of amplifiers in response to one of the wide-band power estimations being greater than a first predetermined value; and

in response to another of the wide-band power estimations not being greater than the first predetermined value, reducing the gain of at least one of the plurality of amplifiers in response to one of the narrow-band power estimations being greater than a second predetermined value.

11. (Previously Presented) The method of claim 10, wherein the first predetermined value is selected so as to reduce the occurrence of ADC saturation due to out-of-band signal power, and wherein the sigma-delta A/D converter includes a decimation and filtering processing chain and the wideband power estimation is obtained by taking a signal from an intermediate point in the decimation and filtering processing chain.

12. (Previously Presented) A method of operating a radio receiver having an analog down-conversion portion including a plurality of serially coupled variable gain amplifiers, and a digital portion that performs, at least partially, a frequency selectivity function to generate a narrowband signal, the method comprising:

a) setting each of the plurality of variable gain amplifiers to a high gain state;

- b) obtaining wide-band signal power estimates from a digital signal prior to the frequency selectivity function;
- c) obtaining narrow-band signal power estimates from a digital signal after the frequency selectivity function and before data is decoded from the narrow-band signal;
- d) determining if the wide-band signal power estimates are greater than the value of a wide-band threshold;
- e) setting a first one of the plurality of variable gain amplifiers to a low gain state in response to an affirmative determination in (d);
- f) in response to a negative determination in (d), determining if a current one of the narrow-band signal power estimates is greater than the value of a narrow-band threshold; and
- g) setting the first one of the plurality of variable gain amplifiers to a low gain state in response to the narrow-band signal power estimate being greater than the first narrow-band threshold value plus a hysteresis value.

13. (Original) The method of claim 12, further comprising dynamically assigning a value to the wideband threshold.

14. (Original) The method of claim 13, further comprising dynamically assigning a value to the narrow-band threshold.

15. (Previously Presented) A radio receiver, comprising:

an analog down-converter including a plurality of serially coupled variable gain amplifiers;

an analog-to-digital converter connected to one of the plurality of variable gain amplifiers; and

a digital baseband processor connected to the analog-to-digital converter, the digital baseband processor including frequency selectivity circuitry to generate a narrow-band signal and to decode data from the generated narrow-band signal and automatic gain control circuitry, the automatic gain control circuitry configured

- to receive a wide-band signal power estimate obtained by measuring a digital signal between the analog-to-digital converter and the selectivity circuitry, and a narrow-band signal power estimate;
 - to compare the wide-band signal power estimate to a wide-band signal power threshold; and
 - to modify gain settings of the serially coupled variable gain amplifiers in response to comparing the wide-band signal power estimate to a wide-band signal power threshold.
16. (Original) The radio receiver of claim 15, wherein the plurality of variable gain amplifiers are coupled to the automatic gain control circuitry.
17. (Previously Presented) The radio receiver of claim 16, wherein the analog-to-digital converter is a sigma-delta analog-to-digital converter that includes a decimation and filtering processing chain and the wide-band signal power estimate is obtained by taking a signal from an intermediate point in the decimation and filtering processing chain.
18. (Original) The radio receiver of claim 15, wherein the automatic gain control circuitry is further configured to receive a wide-band power threshold value and at last one narrow-band threshold value.
19. (Original) The radio receiver of claim 18, wherein the automatic gain control circuitry is further configured to receive at least one hysteresis value.
20. (Original) The radio receiver of claim 16, wherein the selectivity circuitry comprises digital filters.